Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of claims:

1. (currently amended) A hydraulic machine comprising:

a housing;

a rotary group rotatably mounted within said housing, said rotary group including a barrel, a plurality of pistons axially slidable in cylinders in said barrel;

a swashplate assembly to engage said pistons and induce reciprocation thereof as said barrel rotates in said housing; and

a port plate interposed between said barrel and said housing, and being effective to connect respective ones of said cylinders alternatively with an inlet port and an outlet port, said port plate having a face biased into engagement with a sealing face on one of said barrel and said housing and hydraulically connected to the other of said barrel and said housing [[by]] through an annular sleeve extending between and in sealing engagement with said port plate and said other of said barrel and said housing;

whereby upon rotation of said barrel relative to said housing, said faces are maintained in sealing contact by said bias and fluid is transferred between one of said posts and said cylinders through said annular sleeve, misalignment between said port plate and said other of said barrel and said housing [[is]] being accommodated by said annular sleeve[[s]].

2. (original) A machine according to claim 1 wherein said bias is provided by a pair of spring sets acting on said port plate at radially spaced locations.

3. (original) A machine according to claim 2 wherein one of said spring sets is a conical spring acting at a radially inner location on said port plate.

4. (original) A machine according to claim 3 wherein said other of said spring sets includes a plurality of compression springs circumferentially spaced about said port plate.

5. (original) A machine according to claim 1 wherein said port plate rotates with said barrel and said face is provided on said housing.

6. (original) A machine according to claim 5 wherein said annular sleeves are located within each of said cylinders.

7. (original) A machine according to claim 6 wherein said sleeves are sealed by sealing rings within said cylinders and are axially slidable relative to said cylinders.

8. (original) A machine according to claim 6 wherein said bias is provided by a pair of spring sets acting on said port plate at radially spaced locations.

9. (original) A machine according to claim 8 wherein one of said spring sets is a conical spring acting at a radially inner location on said port plate.

10. (original) A machine according to claim 9 wherein said other of said spring sets includes a plurality of compression springs circumferentially spaced about said port plate.

11. (original) A machine according to claim 10 wherein a compression spring is located between each pair of adjacent cylinders

12. (original) A machine according to claim 5 wherein a hydrodynamic bearing is provided between said port plate and said housing.

13. (original) A machine according to claim 1 wherein said port plate is secured to said housing and said face is provided on said barrel.

14. (original) A machine according to claim 13 wherein said bias is provided by a pair of circumferentially spaced springs acting between said plate and said housing.

15. (original) A machine according to claim 14 wherein said springs are located in respective chambers and said chambers are selectively connected to said cylinders as said barrel rotates to balance hydraulic forces imposed by said barrel on said plate.

16. (original) A machine according to claim 15 wherein said chambers are connected to said cylinder by a restricted flow path in said plate.

17. (original) A machine according to claim 16 wherein said plate has an inlet port and an outlet port each of which extends circumferentially in said plate and said chambers are located between said ports.

18. (original) A machine according to claim 17 wherein said restricted flow path is an orifice formed in said plate to communicate with said chamber.

19. (original) A machine according to claim 1 wherein said barrel is mounted on a shaft extending through said housing and secured thereto by a key.

20. (original) A machine according to claim 19 wherein said barrel is located axially on said shaft by a shoulder formed on said shaft.

21. (original) A machine according to claim 19 wherein an actuator acts upon said swashplate to adjust disposition thereof relative to said barrel and thereby adjust the stroke of said pistons in said barrel.

22. (original) A machine according to claim 21 wherein a valve controls flow to said actuator in response to control signals obtained from a control circuit having at least one sensed input thereto indicative of a parameter of said rotating group.

23. (original) A machine according to claim 22 wherein said sensed input includes rotation of said barrel in said housing.

24. (original) A machine according to claim 23 wherein said barrel includes a toothed ring extending about said barrel to co-operate with a sensor in said housing and provide a time varying signal as said barrel rotates.